

Maryland Historical Trust

Maryland Inventory of Historic Properties number:

B-4630

Name:

MANASOTA AVE. OVER HEDDING RUN

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ☒ X

Eligibility Not Recommended

Criteria: ☐ A ☐ B ☒ C ☐ D Considerations: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ None

Comments:

Reviewer, OPS: Anne E. Bruder

Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze

Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. B-4630

SHA Bridge No. BC 4502 Bridge name Mannasota Avenue over Herring Run

LOCATION:

Street/Road name and number [facility carried] Mannasota Avenue

City/town Baltimore Vicinity _____

County Baltimore

This bridge projects over: Road _____ Railway _____ Water X Land _____

Ownership: State _____ County _____ Municipal X Other _____

HISTORIC STATUS:

Is the bridge located within a designated historic district? Yes _____ No X

National Register-listed district _____ National Register-determined-eligible district _____

Locally-designated district _____ Other _____

Name of district _____

BRIDGE TYPE:

Timber Bridge _____:

Beam Bridge _____ Truss -Covered _____ Trestle _____ Timber-And-Concrete _____

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge _____:

Swing _____

Vertical Lift _____

Bascule Single Leaf _____

Retractable _____

Bascule Multiple Leaf _____

Pontoon _____

Metal Girder _____:

Rolled Girder _____

Plate Girder _____

Rolled Girder Concrete Encased _____

Plate Girder Concrete Encased _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X _____:

Concrete Arch X Concrete Slab _____ Concrete Beam _____ Rigid Frame _____

Other _____ Type Name _____

B-463c

DESCRIPTION:

Setting:	Urban	X	Small town	Rural
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Describe Setting:

Bridge BC 4502 carries Mannasota Avenue over Herring Run in the City of Baltimore. Mannasota Avenue extends north-south, while Herring Run flows west to east. The bridge is located within the Herring Run Park, in the eastern portion of the city.

Describe Superstructure and Substructure:

Bridge No. BC 4502 is a 1-span, 2-lane, filled concrete arch bridge. The bridge, built in 1928, is 17 meters (56 feet) long and has a clear roadway width of 9.2 meters (30.1 feet). There are 2 concrete sidewalks on the structure. The east sidewalk is 2 meters (6.7 feet) wide, while the west sidewalk is 2.4 meters (8 feet) wide. The out-to-out width is 14.5 meters (47.5 feet). The superstructure consists of one arch which supports a concrete deck and concrete parapets. The arch spans 15.8 meters (52 feet). The structure has pierced concrete parapets. There are decorative pilasters at the joint between the spandrel walls and wingwalls. A date plaque on the southwest corner of the parapet states that the bridge was built by Harry T. Campbell and Sons. The substructure consists of two concrete abutments and four concrete wingwalls. The bridge has a sufficiency rating of 91.5.

According to the 1995 inspection report, this structure was in satisfactory condition. The parapets on both the east and west sides are heavily deteriorated with spalls and exposed reinforcement bars. The arch has edge spalls and cracks to the arch intrados and one spall with exposed reinforcement bars to the arch headwall. The south abutment has a vertical crack and is severely scaled. The northeast and southeast wingwalls are cracked.

Discuss Major Alterations:

There is no record of major alterations to Bridge BC 4502.

HISTORY:

WHEN was the bridge built: 1928
This date is: Actual X Estimated _____
Source of date: Plaque X Design plans _____ City/County bridge files/inspection form X
Other (specify): _____

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

City of Baltimore

WHO was the builder?

Harry T. Campbell and Sons

WHY was the bridge altered?

N/A

Was this bridge built as part of an organized bridge-building campaign?

There is no evidence that the bridge was built as part of an organized bridge building campaign.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:

A - Events _____ B- Person _____
C- Engineering/architectural character X

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of concrete arch construction. The structure has a high degree of integrity and retains such character-defining elements of the type as pierced concrete parapets, spandrel walls, arch barrel and ring, concrete abutments and wingwalls.

Was the bridge constructed in response to significant events in Maryland or local history?

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of \$3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads.

The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

Unknown

Is the bridge a significant example of its type?

The bridge is a potentially significant example of a concrete arch bridge, possessing a high degree of integrity.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including pierced concrete parapets, spandrel walls, arch barrel and ring, concrete abutments and wingwalls, however some deterioration is evident.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is a significant example of the work of the City of Baltimore.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

City/County inspection/bridge files X SHA inspection/bridge files _____

Other (list): _____

Johnson, Arthur Newhall

1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland*. Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

P.A.C. Spero & Company and Louis Berger & Associates

1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

Tyrrell, H. Grattan

1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

SURVEYOR:

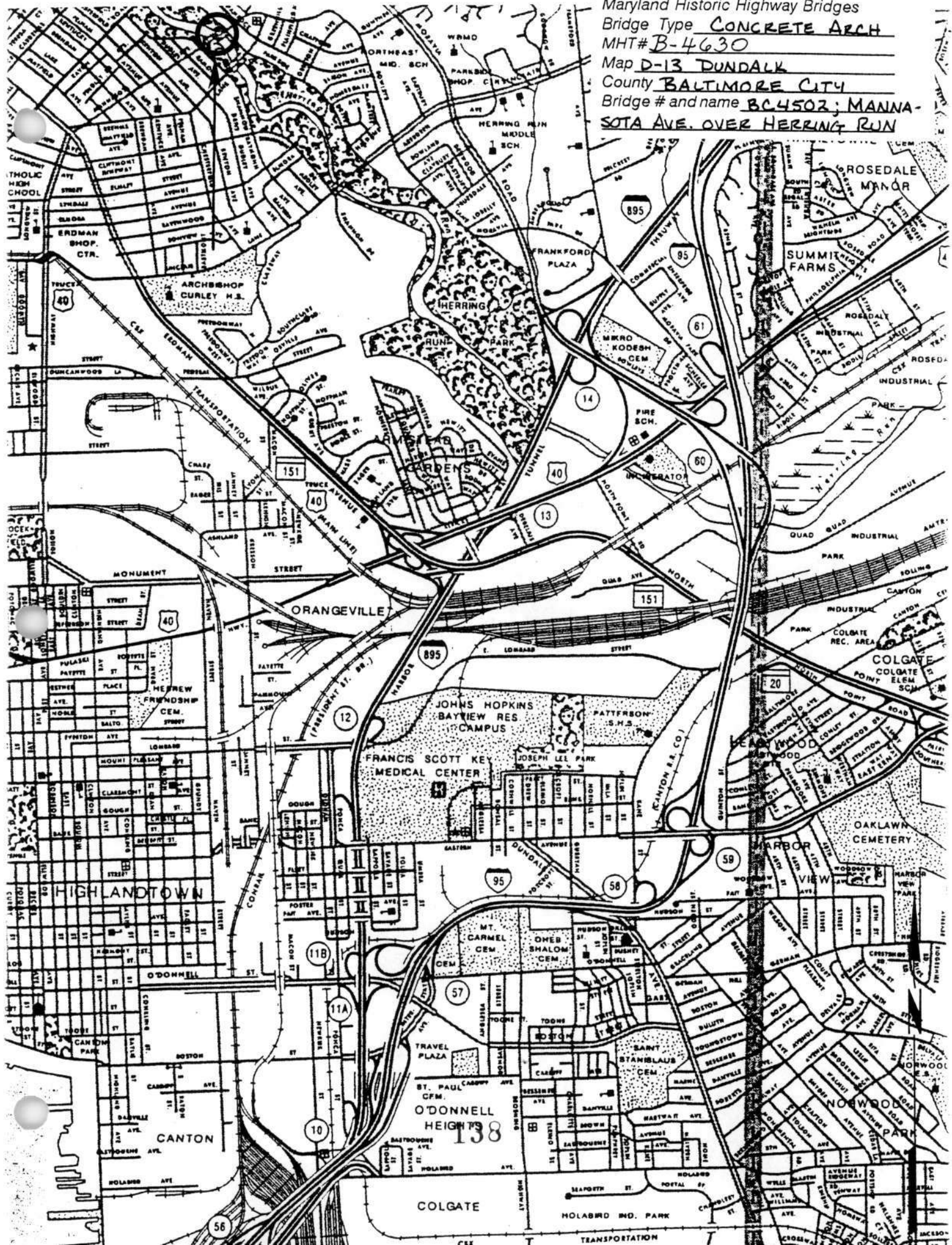
Date bridge recorded December 1997

Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company

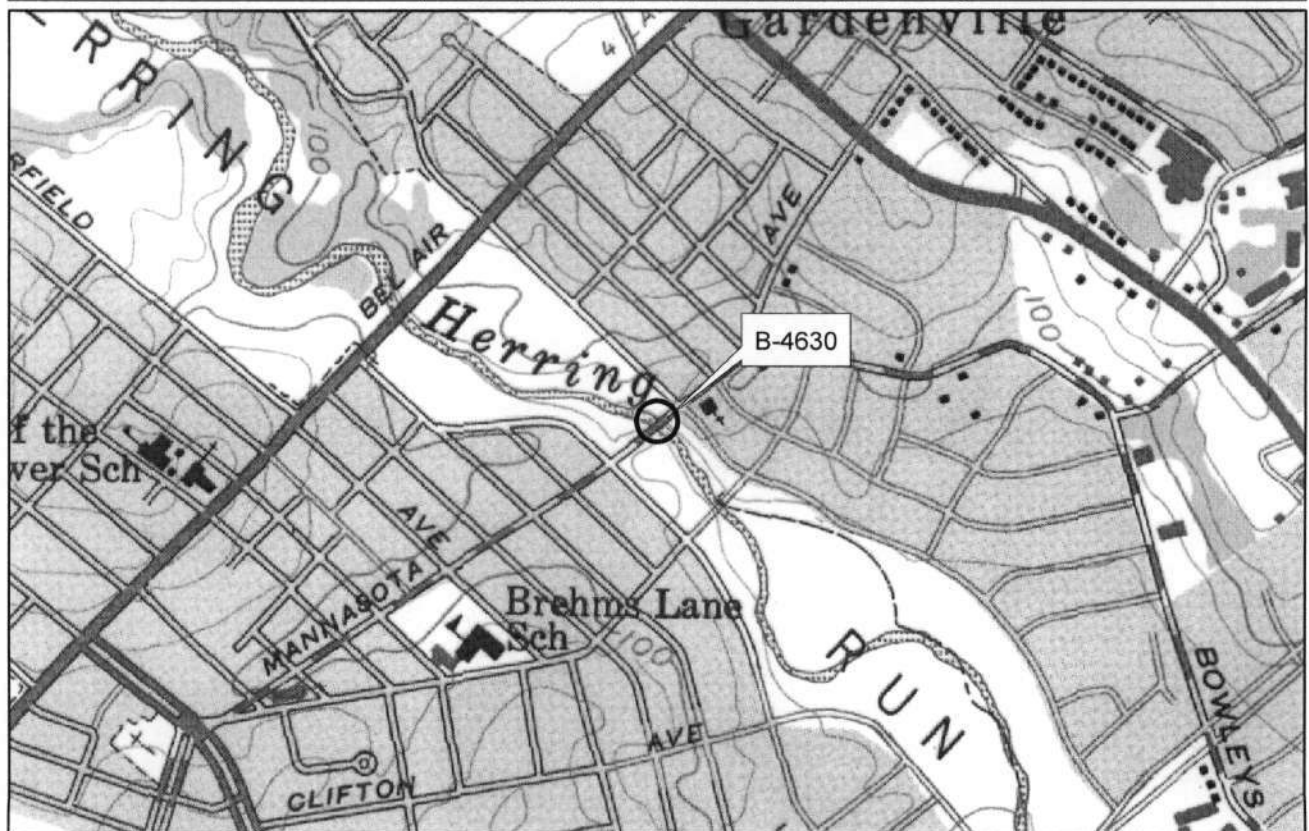
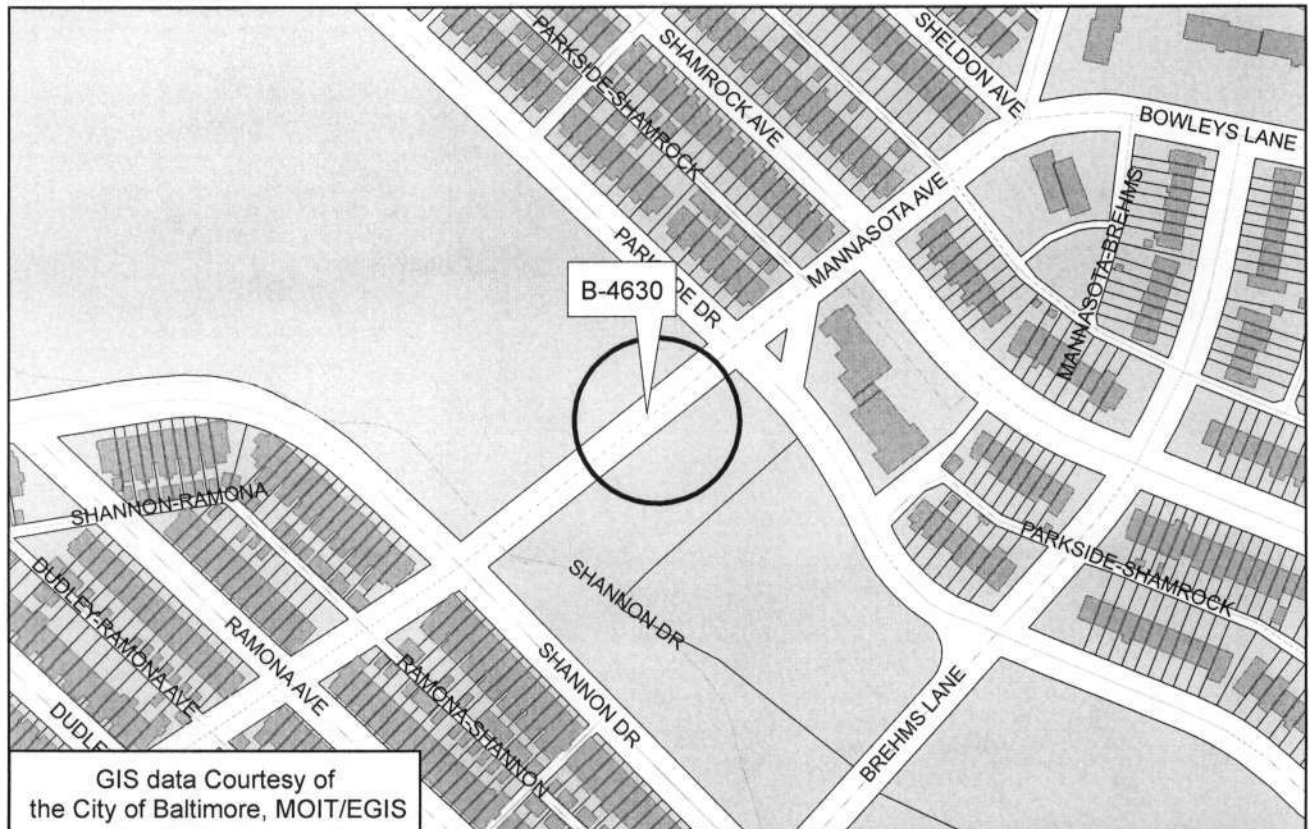
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204

Phone number (410) 296-1635 FAX number (410) 296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# B-4630
Map D-13 DUNDALK
County BALTIMORE CITY
Bridge # and name BC4502; MANNA-
SOTA AVE. OVER HERRING RUN



B-4630
Bridge BC 4502
Mannasota Avenue over Herring Run
Baltimore City
Baltimore East Quad





Inventory # B-4636

Name 4502- MANNASOTA AVE OVER HERRING RUN

County/State BALTIMORE CITY / MD

Name of Photographer TIM SCHDEN

Date 1/95

Location of Negative SHA

Description EAST ELEVATION

Number 1 of 36 ⁵

2025 JAN 11 11:19 AM 1033564 4611 N H H H



Inventory # B-4630

Name 4502 MANNASOTA AVE OVER HERRING RUN

County/State BALTIMORE CITY/MD

Name of Photographer TIM SCHUEN

Date 1/95

Location of Negative SHA

Description NORTH APPROACH

Number 2 of 5

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Inventory # B-4630

Name 4502 - MANNASOTA AVE OVER HERRING

County/State BALTIMORE CITY / MD RUN

Name of Photographer TIM SCHUEN

Date 1/95

Location of Negative SHA

Description SOUTH APPROACH

3
Number 16 of 36 5



Inventory # B-4630

Name 4502-MANNASOTA NE OVER HERRING RUN

County/State BALTIMORE CITY/MD

Name of Photographer TIM SCHEN

Date 1/95

Location of Negative SNA

Description WEST ELEVATION

Number 4 of 5 36

PHOTOGRAPHED BY TIM SCHEN

ERECTED BY CITY OF BALTIMORE

1928

WM. F. BROENING, MAYOR

C. F. COOB, CHIEF ENGINEER

NATHAN L. SMITH, HIGHWAYS ENGINEER

S. M. JOHNSON, DESIGNING ENGINEER

HARRY T. CAMPBELL SONS CO. CONTRACTORS

Inventory # B-4630

Name 4502-MANASOTA AVE OVER HERRING RUN

County/State BALTIMORE CITY / MD

Name of Photographer TIM SCHOEN

Date 1/95

Location of Negative SNA

Description ID PLAQUE @ SOUTH END OF EAST
PARAPET

Number 5 of 36 5